

Ian Kim

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EDUCATION

University of Chicago

B.S. in Computational & Applied Mathematics and Computer Science

Chicago, IL

Expected June 2029

- **Specializations:** Machine Learning
- **Activities:** AI, CS, & Data Science Career Cohort, NYC Business CEW
- **Relevant Coursework:** Data Structures & Algorithms, Systems Programming, Abstract Linear Algebra, Statistical Methods & Applications, Honors Proof-Based Calculus I-III
- **Honors:** University Scholar (Merit Scholarship)

EXPERIENCE & RESEARCH

Machine Learning Research Intern

University of California, Santa Cruz AIEA Laboratory

June 2026 – Present

Santa Cruz, CA

- Conducting research under Dr. Leilani Gilpin on large language model (LLM) interpretability, reproducing published experiments, and analyzing neuron-level representations using PyTorch and Hugging Face
- Fine-tuning and evaluating transformer models on Natural Language Inference (NLI) benchmarks while leveraging GPU computing and reproducible machine learning workflows

Software Engineer Intern

Stealth Startup

June 2025 – Aug. 2025

Remote

- Built and shipped end-to-end features for an AI-powered web application using React, TypeScript, Python, and FastAPI, translating evolving product requirements into production-ready software
- Developed REST APIs and asynchronous data pipelines integrating third-party LLM services with PostgreSQL to support reliable, low-latency production workloads
- Improved reliability with automated testing, CI/CD, structured logging, and performance monitoring

Research Intern

University of Notre Dame

June 2025 – Aug 2025

South Bend, IN

- Awarded full-ride scholarship to conduct original quantitative research examining relationships between corporate practices, firm performance, and stakeholder outcomes
- Applied linear regression and data visualization in R to analyze how governance, compensation, and investment decisions relate to financial and social performance
- Presented regression methodology, limitations, and business implications to faculty and fellows at a research symposium

Independent Researcher

Peaceful Unification Advisory Council

Sept. 2024 – Apr. 2025

Houston, TX

- Authored a mixed-methods study of generational differences in Korean-American views on reunification
- Designed & administered bilingual (Korean/English) survey addressing a gap in Korean-American diaspora research
- Performed statistical analyses (ANOVA, chi-square, Cohen's d) in SPSS to identify statistically significant generational differences

PROJECTS

Deterministic Low-Latency Matching Engine & TCP Gateway | C++20, Linux epoll, SPSC, CMake

2026

- Engineered a single-writer limit-order-book supporting limit, market, IOC, and FOK orders with price-time priority, preallocated storage, fixed-capacity order indexing, journaling, snapshots, and deterministic replay
- Built a nonblocking Linux epoll TCP gateway and versioned binary protocol with per-session sequencing, pre-trade quantity/price/notional limits, bounded SPSC transport, response routing, and explicit backpressure handling
- Benchmarked 17.70M orders/sec median across nine CPU-pinned 20M-operation trials with 100 ns p50 and 600 ns worst-trial p99.9 core latency; verified correctness through 50K-command differential testing, 100K malformed frames, ASan/UBSan, and Linux/Windows CI

HONORS & COMPETITIONS

- National History Bee | 1x International History Olympiad Qualifier, 3x National History Bee Qualifier
- Future Business Leaders of America | Economics State Finalist (TX State), Economists Area Winner (TX Area V)
- Quiz Bowl | Top 12% Individual Placement (HSNCT Nationals 2022), 2nd Place (2021 State), 5x Nationals Qualifier
- U.S. Presidential Scholar Candidate (1600 SAT) | National Merit Finalist (1520 PSAT) | AP Scholar with Distinction (14 5s)

TECHNICAL SKILLS

Languages: C++, Python, TypeScript, Java, JavaScript, SQL, HTML/CSS

ML & Systems: PyTorch, Hugging Face Transformers, TensorFlow, Docker, Linux, Git, CMake, PostgreSQL

Frameworks: React, FastAPI

Certifications: AWS Certified Cloud Practitioner, Certiport IT Specialist - Java